

REMARKS/ARGUMENTS

Claims 1-29 were previously pending in the application. Claims 1-29 are canceled; and new claims 30-58 are added herein. Assuming the entry of this amendment, claims 30-58 are now pending in the application. The Applicant hereby requests further examination and reconsideration of the application in view of the foregoing amendments and these remarks.

In paragraph 5 of the final office action, the Examiner rejected claims 1-10, 15-16, 18-24, 27, and 29 under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of Ginzburg. In paragraph 6, the Examiner rejected claims 11-14, 17, 25-26, and 28 under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Ginzburg and further in view of Murray. Since claims 1-29 are canceled, the Applicant submits that the rejection of those claims is moot.

On 09/16/08, the Examiner participated in a telephonic interview with the Applicant's attorney Steve Mendelsohn. The Applicant thanks the Examiner for the courtesy of that interview. During the interview, the Examiner explained that his rejection of claim 1 was based on an interpretation of the teachings of Ginzburg in which the combination of Ginzburg's binary-to-duobinary converter and Ginzburg's equalization filter was treated as an example of the at least one filter of claim 1. The Examiner acknowledged that real-world differences exist between the system taught in Ginzburg and the present invention, but argued that those differences were not reflected in claim 1. In particular, the Examiner acknowledged that, in Ginzburg, a duobinary signal exists in the transmitter. The Examiner indicated that a claim recitation that explicitly stated that no duobinary signal exists in the transmitter would distinguish over Ginzburg.

Support for new claims 30-58 is found in claims 1-29, respectively.

According to new claim 30, after providing the final binary data signal, no duobinary data signal exists in the transmitter subsystem. Support for this particular feature of claim 30 is found, for example, in Fig. 1, where the transmitter subsystem includes binary data transmitter 102, duobinary precoder 104, and equalizing FIR filter 106. See, e.g., page 4, lines 21-23.

The output of binary data transmitter 102 is an NRZ binary data signal. See, e.g., page 2, lines 34-35. Duobinary precoder 104 receives the NRZ binary data signal from binary data transmitter 102 and outputs a precoded NRZ binary data signal that is applied to equalizing FIR filter 106. See, e.g., page 2, line 35, to page 3, line 4. Note that, although precoder 104 is called a "duobinary precoder," the signal that it receives is a binary data signal, the signal that it produces is also a binary data signal, and at no time during its processing does a duobinary data signal exist. Support for the output of precoder 104 being a binary data signal is also found, for example, on page 3, lines 8-9, which describes equalizing filter 106 filtering "an NRZ binary data signal." The output of filter 106, which is itself not a duobinary data signal, is applied to electrical backplane 108.

Thus, while both binary data transmitter 102 and duobinary precoder 104 provide binary data signals, duobinary precoder 104 provides the final binary data signal in the transmitter subsystem. One reason for reciting that the binary data signal in the transmitter subsystem is a "final" binary data signal in the claims is to avoid the possibility of someone designing around the claimed invention by providing a transmitter subsystem that converts an initial binary data signal into a duobinary data signal that is then converted back into a binary data signal and then arguing that a duobinary data signal exists in the transmitter subsystem after the initial binary data signal is provided. Explicitly reciting in the claims that no duobinary data signal exists in the transmitter subsystem after the final binary data signal is provided, forecloses such an attempt to design around the claimed invention.

In Ginzburg's transmitter subsystem, a binary data signal is provided and then converted into a duobinary data signal. Thus, after the binary data signal is provided, a duobinary data signal does exist in Ginzburg's transmitter subsystem. As such, the explicit feature of claim 30 that, after providing the final binary data signal, no duobinary data signal exists in the transmitter subsystem, distinguishes the claimed invention over the teachings of Ginzburg, whether considered alone or in combination with any of the other cited prior art.

In Ginzburg, the purpose of the equalization filter is to undo the effects of the transmission channel such that the input to the equalization filter is identical to the output from the transmission channel. In the present invention, the purpose of the at least one filter is to complete the electrical backplane's otherwise incomplete conversion of a binary data signal into a duobinary data signal, such that, when, for example, the at least one filter is implemented in the transmitter subsystem, the input to the at least one filter is a binary data signal, while the output from the electrical backplane is a duobinary data signal. These very different goals are at the heart of at least some of the real-world differences between the system taught in Ginzburg and at least certain embodiments of the present invention.

In view of the foregoing, the Applicant submits that claim 30 is allowable over the cited prior art. For similar reasons, the Applicant submits that claims 47 and 58 are allowable over the cited prior art.

Since claims 31-46 depend directly or indirectly from claim 30, and claims 48-57 depend directly or indirectly from claim 47, it is further submitted that those claims are also allowable over the cited prior art.

In view of the above amendments and remarks, the Applicant believes that the now-pending claims are in condition for allowance. Therefore, the Applicant believes that the entire application is now in condition for allowance, and early and favorable action is respectfully solicited.

Fees

During the pendency of this application, the Commissioner for Patents is hereby authorized to charge payment of any filing fees for presentation of extra claims under 37 CFR 1.16 and any patent application processing fees under 37 CFR 1.17 or credit any overpayment to Mendelsohn & Associates, P.C. Deposit Account No. 50-0782.

The Commissioner for Patents is hereby authorized to treat any concurrent or future reply, requiring a petition for extension of time under 37 CFR 1.136 for its timely submission, as incorporating a petition for extension of time for the appropriate length of time if not submitted with the reply.

Respectfully submitted,

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